OPERATING PROCEDURE

VASCULAR ACCESS/IV THERAPY

Effective Date: May 20, 1988

Revised: October 1, 2000

Approved By:

Approved By Operational Medical Director:

ALS ONLY

I. Indications

A. As directed by medical operating procedure or OLMC

B. Whenever intravenous fluids or medications may need to be administered

II. Procedure:

A. IV Attempts

1. Attempts to establish vascular access shall be limited to three attempts by one ALS provider or a total of five attempts when more than one ALS provider is rendering care. Additional IV attempts may be authorized by on-line medical control (OLMC). Careful consideration should be given to on-scene time when establishing IV access. Whenever possible, IV access should be obtained while enroute to the hospital or landing zone.

2. IV catheter size should be determined by patient presentation (e.g.: the need for IV fluid boluses or fluid resuscitation.) ALS providers should generally select the largest and most accessible vein on the upper extremities. If necessary, the external jugular or lower extremities may be used when no other veins are accessible. This may be done prior to contacting OLMC.

3. Whenever practical, clothing should be removed and a hospital gown applied prior to starting an IV.

5. In any patient exhibiting signs and/or symptoms of altered mental status, a single red top tube of blood shall be drawn. This is especially important prior to the administration of D_{50}. The blood sample should be drawn using a vacutainer device. The blood tube shall be labeled with the patient's name as well as the date and time the sample was collected.

6. Once IV access has been established and blood has been drawn, a "saline lock" may be attached to the hub of the catheter. This device is indicated when the patient is stable and fluids/medication administration is not immediately likely. After attaching the saline lock to the IV hub, flush with 2 cc of Normal Saline.

B. Fluid Bolus (Fluid Challenge/Fluid Resuscitation)

1. Consider a fluid bolus for:
- ✓ **hypotensive patients**
- ✓ **patients with orthostatic vital sign changes**
- ✓ **suspected hypovolemia**

a. Adult patient:

Rapidly infuse 20 cc/kg of 0.9% Sodium Chloride solution. Reassess vital signs to determine need for additional fluid boluses. Continue to bolus at 20 cc/kg until the vital signs or level of perfusion become acceptable.

b. Pediatric patient:

Infuse 20 cc/kg of 0.9 % Sodium Chloride solution. Reassess vital signs to determine need for further fluid boluses. Fluid bolus may be repeated twice, not exceed a total of 60 cc/kg prior to contact with OLMC

c. Neonate patient:

Infuse 10 cc/kg of 0.9% Sodium Chloride solution. Reassess vital signs to determine need for further fluid boluses. Fluid bolus may be repeated twice, not exceed a total of 30 cc/kg prior to contact with OLMC.

C. Medication Administration

1. **In cases of cardiac arrest, ALL IV medications (excluding infusions) should be administered rapidly by bolus injection and followed by a 20 cc bolus of IV fluid and elevation of the extremity.**

2. **In non cardiac arrest scenarios, administer medications as directed by the specific protocol.**

D. Intraosseous Infusion

Intraosseous Infusion should be initiated on a patient where IV access is unattainable. Utilize the following guidelines:

1. **IO is indicated for any patient that is unconscious, unresponsive, and in immediate danger of expiring from either illness or injury,**

2. **A maximum of two intraosseous attempts are to be made, one in each proximal tibia for pediatric patients, or one in each distal tibia for patients greater than 5 years of age.**

3. **A fractured femur is to be considered a relative contraindication. A fractured tibia is an absolute contraindication and the other leg is to be used.**

4. **OLMC should be contacted prior to attempting an intraosseous infusion on a patient who is not classified in the above categories (e.g., compromising burns, seizures)**

5. **The technique for starting the IO infusion shall be consistent with current American Heart Association PALS guidelines and/or the American College of Emergency Physicians BTLS curriculum.**